

IN THE CLAIMS

Claim 1 (currently amended). A static lamination micro-mixer for mixing, dispersing, emulsifying or suspending at least two fluid phases, ~~characterized in that it contains~~ **comprising** at least one slotted plate having slot openings and an aperture plate having aperture slots arranged above the former, whose slots are produced as continuous openings.

Claim 2 (currently amended). Micro-mixer according to Claim 1, ~~characterized in that wherein~~ the number of slot openings in the slotted plate and/or the number of aperture slots in the aperture plate is greater than one.

Claim 3 (currently amended). Micro-mixer according to ~~Claims 1 and 2,~~ **characterized in that, claim 1, wherein fluid phases supplied to the micro mixer are,** after entering the slotted plate, ~~the fluid phases are~~ initially fed to one another in the slot openings before ~~they enter~~ **entering** the opening of a plate located above.

Claim 4 (currently amended). Micro-mixer according to ~~Claims 1 to 3,~~ **characterized in that claim 1, wherein** the slot openings in the slotted plate are arranged in relation to one another in such a way that the fluid phases enter the slot opening of an aperture or slotted plate located above.

Claim 5 (currently amended). Micro-mixer according to ~~Claims 1 to 4,~~ **characterized in that claim 1, wherein** the fluid phases come into contact with one another in the slot openings of the aperture plate.

Claim 6 (currently amended). Micro-mixer according to ~~Claims 1 to 5,~~ **characterized in that claim 1, wherein** the geometric form and alignment of the slot openings in the slotted plate promote the production of secondary effects.

- Claim 7 (currently amended). Micro-mixer according to ~~Claims 1 to 6,~~
~~characterized in that~~ claim 1, wherein the slot openings are arranged obliquely
in relation to one another.
- Claim 8 (currently amended). Micro-mixer according to ~~Claims 1 to 7,~~
~~characterized in that~~ claim 1, wherein the cross section of the slot openings in
the plate is configured in the shape of a funnel or lobe.
- Claim 9 (currently amended). Micro-mixer according to ~~Claims 1 to 8,~~
~~characterized in that~~ claim 1, wherein a plurality of slotted plates and/or
aperture plates are arranged directly above one another or offset in relation to
one another.
- Claim 10 (currently amended). Micro-mixer according to ~~Claims 1 to 9,~~
~~characterized in that~~ claim 1, wherein structures are applied to the slotted
plates or are machined out of the plates.
- Claim 11 (currently amended). Micro-mixer according to ~~Claims 1 to 10,~~
~~characterized in that~~ claim 1, wherein, by means of suitable arrangement of
one or more slotted plates and/or aperture plates, a fluid is led to an outlet
opening of another fluid.
- Claim 12 (currently amended). Micro-mixer according to ~~Claims 1 to 11,~~
~~characterized in that~~ claim 1, wherein ~~a~~ the mixing chamber is fitted above the
aperture plate.
- Claim 13 (currently amended). Micro-mixer according to ~~Claims 1 to 12,~~
~~characterized in that~~ claim 1, wherein the aperture slots in the aperture plate
are offset parallel to one another and/or are arranged in a periodic pattern in
relation to one another.

Claim 14 (currently amended). Micro-mixer according to ~~Claims 1 to 13~~, ~~characterized in that claim 1, wherein~~ the slot openings in the slotted plate and the aperture slots in the aperture plate are arranged at any desired angle to one another, ~~preferably optionally~~ rotated through 90°.

Claim 15 (currently amended). Micro-mixer according to ~~Claims 1 to 14~~, ~~characterized in that claim 1, wherein~~ the slot openings in the slotted plate and the aperture slots in the aperture plate have a width of less than 500 µm ~~but preferably less than 10 µm~~.

Claim 16 (currently amended). Micro-mixer according to ~~Claims 1 to 15~~, ~~characterized in that claim 1, wherein~~ the slotted and aperture plates ~~consist are formed~~, partly or completely, of metal, glass, ceramic ~~and or~~ plastic or of a combination of these materials.

Claim 17 (currently amended). Micro-mixer according to ~~Claims 1 to 16~~, ~~characterized in that claim 1, wherein~~ the slotted and aperture plates have been produced by punching, embossing, milling, erosion, etching, plasma etching, laser cutting, laser ablation or by the LIGA technique ~~but preferably by laser cutting or the LIGA technique~~.

Claim 18 (currently amended). Micro-mixer according to ~~Claims 1 to 17~~, ~~characterized in that claim 1, wherein~~ the slotted and aperture plates comprise a stack of micro-structured thin plates.

Claim 19 (currently amended). Micro-mixer according to Claim 18, ~~characterized in that wherein~~ the thin micro-structured plates are connected materially by means of soldering, welding, diffusion welding or adhesive bonding or with a force fit by means of screwing, pressing or riveting.

Claim 20 (currently amended). Micro-mixer according to ~~Claims 1 to 19~~, ~~characterized in that claim 1, wherein~~ the aperture slots in the aperture plates and the slot openings in the slotting plates are of branched configuration.

Claim 21 (currently amended). Micro-mixer according to ~~Claims 1 to 20~~, ~~characterized in that claim 1, wherein~~ the micro-mixer is accommodated in a housing ~~provided for the purpose~~.

Claim 22 (currently amended). Micro-mixer according to ~~Claims 1 to 21~~, ~~characterized in that claim 21, wherein~~ the housing ~~can contain~~ contains channels which ~~permit~~ promote spatial distribution of the fluid phases.

Claim 23 (currently amended). Micro-mixer according to ~~Claims 1 to 22~~, ~~characterized in that claim 22, wherein~~ the channels are arranged offset parallel from one another, radially, concentrically or behind one another in order to distribute the fluids in the housing.

Claim 24 (currently amended). Micro-mixer according to ~~Claims 1 to 23~~, ~~characterized in that claim 22, wherein~~ the channels are designed with constant or variable cross sections in order to distribute the fluids in the housing.

Claim 25 (currently amended). Method for mixing, dispersing, emulsifying or suspending at least two fluid phases, ~~characterized in that these are led which~~ comprises leading said fluid phases through at least one slotted plate having slot openings, ~~whose the~~ slots of which are ~~produced as in the form of~~ continuous openings, and an aperture plate having aperture slots arranged above the former.

Claim 26 (new). The Micro-mixer of claim 15, wherein said width is less than 10 μm .

Claim 27 (new). The Micro-mixer of claim 17, wherein said slotted and aperture plates are produced by laser cutting or the LIGA technique.